

REMARKS

This is intended as a full and complete response to the Final Office Action dated October 27, 2003, having a shortened statutory period for response set to expire on January 27, 2004. Please reconsider the claims pending in the application for reasons discussed below.

Claims 10 and 12-20 remain pending in the application, and are shown above. Claims 1-8, 21-24, 28, 30-38 and 40-41 were previously withdrawn. Claims 9, 11, 25-27, 29 and 39 were previously cancelled by the Applicant.

The Examiner has rejected claims 10 and 11-20. In response, claims 10 and 13 have been amended. New claims 42-44 have been added. Reconsideration of the rejected claims is requested for reasons presented below. Consideration of the two new claims is also requested.

1. Rejection of Claims 10 and 12-20 Under Section 103(a)

The Examiner has rejected claims 10 and 12-20 under 35 U.S.C. §103(a). Claims 10, 12-16, 18 and 20 were rejected as being unpatentable over applicant's description of the prior art taken in view of Huntley (6,397,883) and Hung (5,718,029), and in further view of van Os (5,792,272), Jevtic (5,928,389) and Maydan (5,882,165). Claim 19 was rejected as being unpatentable over applicant's description of the prior art taken in view of Huntley (6,397,883) and Hung (5,718,029), and in further view of Van Os (5,792,272), Jevtic (5,928,389), Maydan (5,882,165), Hauff (5,769,626) and Kuribayashi (6,410,455).

Claim 10 is an independent claim, and provides for an apparatus for processing a substrate. The apparatus comprises a plurality of vacuum chambers that define an envelope of space in a clean room. The specification of the pending application notes that an envelope of space "is typically a rectangle having sides defined by the edges of a component or components making up an apparatus." (p. 3, l. 19-20). In claim 10, the at least two pumps are located within the envelope of space defined by the chambers. By this limitation, it is intended that the pumps be within the same clean room as the corresponding chambers. In this respect, the specification contrasts "the footprint of the

apparatus 100" (which is the envelope of an apparatus with an additional two feet added to each side) with a "separate room or basement." (p. 10, l. 20-23). The cited references do not teach a configuration of pumps that is within the same clean room.

For the purpose of further clarifying the invention, the applicant has amended claim 10 to provide that the at least two pumps are --in the immediate environment of the chambers--. The phrase "immediate environment" is taken directly from page 10, line 22 of the specification, and is not new matter. "Immediate environment" precludes the placement of pumps in a separate room, such as the "sub-fab" room taught by the '883 Huntley reference. Applicant respectfully submits that, with this clarification, claim 10 is in condition for allowance.

Applicant does note that the cited '272 van Os reference shows in Figure 1 an "axially aligned" plasma reactor 16 and pump 26. The van Os vacuum system described in claim 1 has an opening "disposed directly beneath" the process chamber. (See vacuum system limitation of claim 1 in U.S. Patent No. 5,792,272). Of course, the prior art view provided by Applicant in Figure 1 also shows a pump "disposed directly beneath" the process chamber. What the '272 van Os reference does not teach, show or suggest is a separate onboard pump associated with a transfer chamber as provided in amended claim 10.

Claims 12-20 depend from claim 10, directly or indirectly. Because claim 10 is in condition for allowance, Applicant respectfully submits that claims 12-20 are likewise in condition for allowance.

Applicant would add that claim 13 has been amended to clarify the relationship between the pumps and the chambers. Also, claim 17 was never mentioned in the Final Office Action in connection with the Section 103(a) rejections.

2. New Claims 42 and 43

Applicant has added new claims 42 and 43. Claim 42 provides that "the inlet of at least one of the pumps is connected to a corresponding chamber by means of a foreline, the foreline having a length of about 0.5 meters to 2.0 meters." This is not new matter, but follows a feature described in the specification in connection with possible embodiments. (See, e.g., p. 11, l. 21-23). Claim 43 provides that "the inlet of at least

one of the pumps is connected directly to a corresponding chamber.” This is not new matter, but also follows a feature described in the specification in connection with possible embodiments. (See, e.g., p. 11, l. 25-28).

3. New Claims 44 and 45

Applicant has added new claims 44 and 45. Claim 44 is intended to approximate (though not exactly duplicate) the limitations of claim 14, but is in independent form. The Examiner had previously indicated that claim 14 would be allowable if rewritten to include all of the limitations of independent base claim 10 and any intervening claims. Applicant respectfully submits that claim 44 is in condition for allowance.

New claim 45 is dependent on claim 44. Claim 45 is intended to approximate (though not exactly duplicate) the limitations of claim 17. The Examiner had previously indicated that claim 17 would be allowable if rewritten to include all of the limitations of independent base claim 10 and any intervening claims.

4. Rejection of Claims 10 and 12-20 Under Section 112, First Paragraph

The Examiner also rejected claims 10 and 12-20 under 35 U.S.C. §112, first paragraph. Applicant understands the rejection as being directed to the word “each” in connection with the plurality of vacuum chambers and the transfer chamber. Accordingly, Applicant has removed the word “each” from claim 10. This amendment is not a narrowing amendment, but is intended to clarify the scope of the invention.

Conclusion

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully requests that the claims be allowed.

Respectfully submitted,



B. Todd Patterson
Registration No. 37,906
Peter L. Brewer
Registration No. 41,636
MOSER, PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846

Attorney for Applicant